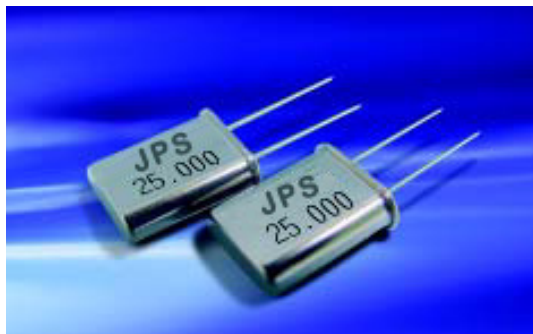


## ● Crystal Resonator (晶体谐振器) – Leded Type (引线型)

### ● HC-49/U



#### ● Applications 用途:

Microprocessor, VTR, Household appliances, codeless phone, Communication equipments, etc.

微处理器, 录相机, 家用电器, 无绳电话, 通讯设备, 等等。

#### ● Features 特征:

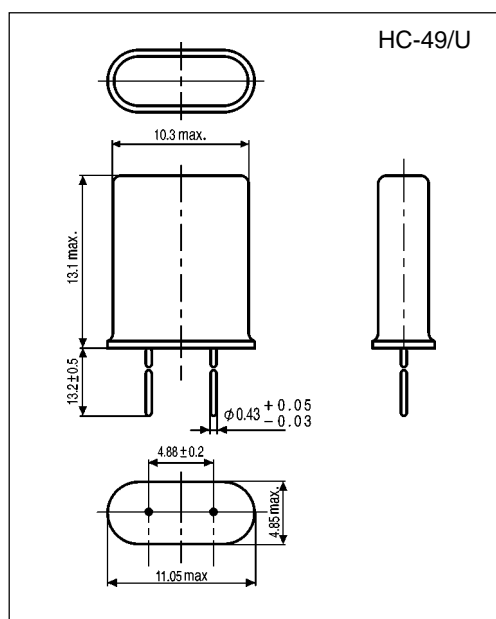
- Metal package. 金属封装。
- Excellent frequency aging stability. 具备优质的频率老化特性。
- High heat & shock resistance. 高耐热耐冲击电阻。

#### ● Typical specifications 规格参数

Type	型号	HC-49/U	
Frequency range	频率范围	1.5 ~ 40.0 MHz	20.0 ~ 90.0 MHz
Crystal cut/Vibration mode	切型 / 振荡	(AT) Fundamental(基频)	(AT) 3rd overtone(三次泛音)
Frequency tolerance (at +25°C)	调整频差	$\pm 10, \pm 15, \pm 20, \pm 30, \pm 50 \times 10^{-6}$	
Frequency stability	温度频差	$\pm 30 \times 10^{-6}$ Typical, See Table 1(见表 1)	
Operating temperature range	工作温度	-10 ~ +60°C, See Table 1(见表 1)	
Equivalent series resistance	等效电阻	See Table2 (见表 2)	
Load capacitance	负载电容	Series, 16pF, 20pF, 30pF, etc.	
Shunt capacitance	静电容	7pF max.	
Level of drive	激励功率	10 $\mu$ W (1000 $\mu$ W max.)	
Aging	老化率	$\pm 3, \pm 5$ ppm/year	
Storage temperature range	储存温度	-55 ~ +125°C	

- Please consult for other specifications. (若有其它规格需求请告知)

#### ● Outline Dimensions [Unit: mm] 外形尺寸



#### ● Table1: Frequency stability (ref. to 25°C) 频率稳定性

O.P Temp.	$\pm 2.5$ ppm	$\pm 5$ ppm	$\pm 10$ ppm	$\pm 20$ ppm	$\pm 30$ ppm
0 ~ +50°C		●	●	●	●
-10 ~ +60°C		●	●	●	●
-20 ~ +70°C			●	●	●
-40 ~ +85°C			●	●	●

#### ● Table2: Equivalent series resistance (ESR) 等效电阻

AT Fund.(MHz)	ESR( $\Omega$ )	AT Fund. (MHz)	ESR ( $\Omega$ )
1.5 ~ 1.99MHz	700	5.0 ~ 6.99MHz	50
2.0 ~ 2.99MHz	500	7.0 ~ 9.99MHz	35
3.0 ~ 3.19MHz	300	10.0 ~ 40.0MHz	25
3.2 ~ 3.99MHz	150	<b>AT 3rd Overtone</b>	<b>ESR (<math>\Omega</math>)</b>
4.0 ~ 4.49MHz	90	20.0 ~ 24.99MHz	45
4.5 ~ 4.99MHz	70	25.0 ~ 90.0MHz	40